

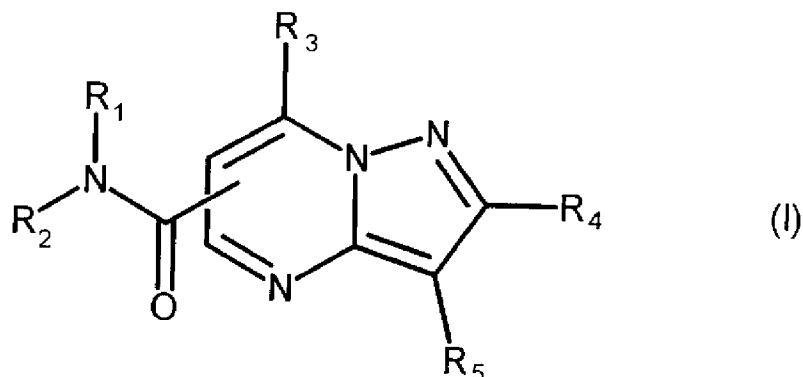
Amendments to the Claims

This Listing of Claims will replace all prior versions and listings in this application. Claims 3-14 are pending. Claims 1-2, and 15-30 stand canceled.

Listing of Claims

1-2. (Canceled)

3. (Currently Amended) A compound represented by the formula:



or a pharmaceutically acceptable salt or solvate thereof,

wherein, in the formula (I),

R₁ is hydrogen, lower alkyl, amino, substituted amino, aryl lower alkyl, or substituted aryl lower alkyl; and

R₂ is hydrogen, lower alkyl, substituted lower alkyl, cycloalkyl, substituted cycloalkyl, cycloalkyl lower alkyl, substituted cycloalkyl lower alkyl, lower

alkoxy, substituted lower alkoxy, aryl, substituted aryl, aryl lower alkyl, substituted aryl lower alkyl, aryloxy lower alkyl, substituted aryloxy lower alkyl, lower alkylsulfonyl, substituted lower alkylsulfonyl, arylsulfonyl, substituted arylsulfonyl, heterocyclic group lower alkyl, substituted heterocyclic group lower alkyl, amino, or substituted amino; or

R₁ and R₂ together with the adjacent N atom may form a heterocyclic group or substituted heterocyclic group;

R₃ is hydrogen, hydroxy, lower alkoxy, halogen, amino, di-lower alkyl amino, lower alkyl carbonyl amino, lower alkoxy carbonyl lower alkyl amino, hydroxy lower alkyl amino, carbamoyl amino, lower alkoxy lower alkyl amino, lower alkyl sulfonyl amino, or cycloalkyl amino, wherein said substituent may together with the N-atom of the amino form a heterocyclic group;

R₄ is hydrogen, lower alkyl, aryl, or substituted aryl; and

R₅ is hydroxy, lower alkyl, substituted lower alkyl, aryl, substituted aryl, aryl lower alkyl, substituted aryl lower alkyl, cycloalkyl lower alkyl, substituted cycloalkyl lower alkyl, aryl lower alkenyl, substituted aryl lower alkenyl, cycloalkyl lower alkenyl, substituted cycloalkyl lower alkenyl, aryl lower alkynyl, substituted aryl lower alkynyl, cycloalkyl lower alkynyl, substituted cycloalkyl lower alkynyl, aryl carbonyl, substituted aryl carbonyl, aryl lower alkyl carbonyl, substituted aryl lower alkyl carbonyl, heterocyclic group, substituted heterocyclic group, halogen, CHO, amino, substituted amino, imino, or substituted imino;

wherein the heterocyclic groups contain at least one hetero atom selected from the group consisting of oxygen, sulfur, ~~or~~ and nitrogen, wherein the heterocyclic groups are monocyclic, bicyclic, or tricyclic, wherein the heterocyclic groups are aromatic or non-aromatic, and wherein the heterocyclic groups have 5-7 members;

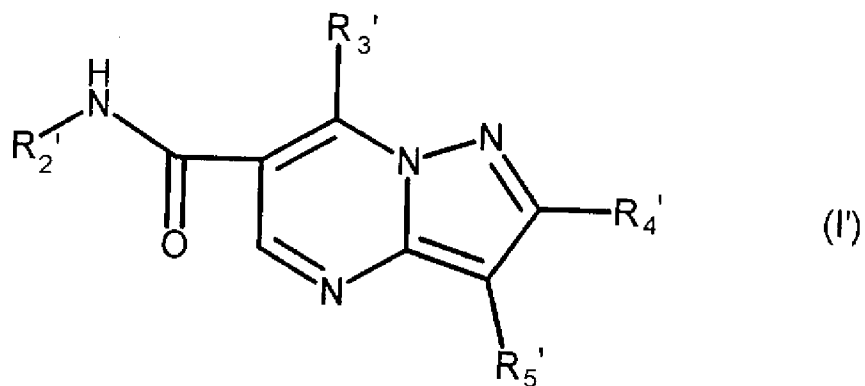
wherein the substituted alkyl, alkoxy, alkenyl, alkynyl and amino groups are substituted with one or more substituents selected from the group consisting of: halogen; hydroxy; lower alkoxy; substituted lower alkoxy; aryloxy, $R_9C(O)O-$, wherein R_9 is a hydrocarbon group or a heterocyclic group; $R_{10}OC(O)-$, wherein R_{10} is a hydrocarbon group or a heterocyclic group; carbamoyl; diazo; cyano; amino, substituted amino; imino; amidino; azido; nitro; ~~nitroso~~ nitroso; mercapto; $R_{17}S-$, wherein R_{17} is a hydrocarbon group or a heterocyclic group; $R_{18}SO-$, wherein R_{18} is a hydrocarbon group or a heterocyclic group; $R_{20}S(O)-$, wherein R_{20} is a hydrocarbon group or a heterocyclic group; $R_{19}S(O)_2-$, wherein R_{19} is a hydrocarbon group or a heterocyclic group; sulfo; an alicyclic hydrocarbon groups group; aryl; substituted aryl; a heterocyclic group; a substituted heterocyclic group; heterocyclic oxy; acyl; trialkyl silyl; monoalkyl diaryl silyl; and dialkyl monoaryl silyl;

wherein the substituted aryl, heterocyclic and cycloalkyl groups are substituted with one or more substituents selected from the group consisting of: lower alkyl; substituted lower alkyl; lower alkenyl; substituted lower alkenyl; lower alkynyl; substituted lower alkynyl; halogen; hydroxy; lower alkoxy; substituted lower

alkoxy; aryloxy; $R_9C(O)O^-$, wherein R_9 is a hydrocarbon group or a heterocyclic group; $R_{10}OC(O)^-$, wherein R_{10} is a hydrocarbon group or a heterocyclic group; carbamoyl; diazo; cyano; amino; substituted amino; imino; amidino; azido, nitro, nitroso, mercapto; $R_{17}S^-$, wherein R_{17} is a hydrocarbon group or a heterocyclic group; $R_{18}SO^-$, wherein R_{18} is a hydrocarbon group or a heterocyclic group; $R_{20}S(O)^-$, wherein R_{20} is a hydrocarbon group or a heterocyclic group; $R_{19}S(O)_2^-$, wherein R_{19} is a hydrocarbon group or a heterocyclic group; sulfo; an alicyclic hydrocarbon groups group; aryl; substituted aryl; a heterocyclic group; a substituted heterocyclic group; heterocyclic oxy; acyl; trialkyl silyl; monoalkyl diaryl silyl and dialkyl monoaryl silyl; and

wherein the substituted imino group is substituted with one or more substituents selected from the group consisting of: hydroxy, alkoxy, alkyl, aralkyl, acyl, aryl sulfonyl, alkyl sulfonyl, and carbamoyl;

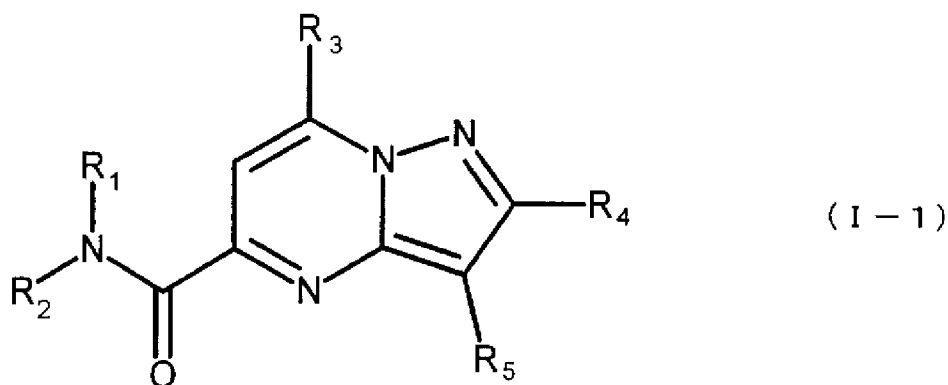
provided that a compound represented by the following formula is excluded:



wherein, in the formula (I'),

R₂' is hydrogen, phenyl or phenyl substituted with lower alkyl or halogen; R₃' is hydrogen or hydroxy; R₄' is hydrogen or lower alkyl; and R₅' is phenyl having an unsubstituted phenylthio group or a phenylthio group substituted with lower alkyl or lower alkoxy.

4. (Previously Presented) The compound of claim 3, represented by the formula:



or a pharmaceutically acceptable salt or solvate thereof,

wherein, in the formula (I-1), each substituent is as defined in claim 3.

5. (Previously Presented) The compound of claim 3 or 4, or, a pharmaceutically acceptable salt or solvate thereof, wherein R₁ is hydrogen; and R₂ is aryl or substituted aryl.
6. (Previously Presented) The compound of claim 3 or 4, or a pharmaceutically acceptable salt or solvate thereof, wherein R₃ is hydrogen, amino, di-lower alkyl amino, lower alkyl carbonyl amino, lower alkoxy carbonyl lower alkyl amino, hydroxy lower alkyl amino,

carbamoyl amino, lower alkoxy lower alkyl amino, lower alkyl sulfonyl amino, or cycloalkyl amino, wherein said substituent may together with the N-atom of the amino form a heterocyclic group.

7. (Previously Presented) The compound of claim 3 or 4, or a pharmaceutically acceptable salt or solvate thereof, wherein R₄ is hydrogen.
8. (Previously Presented) The compound of claim 3 or 4, or a pharmaceutically acceptable salt or solvate thereof, wherein R₅ is aryl or substituted aryl.
9. (Previously Presented) The compound of claim 3 or 4, or a pharmaceutically acceptable salt or solvate thereof, wherein R₁ is hydrogen; R₂ is phenyl or substituted phenyl; R₃ is hydrogen, amino, or substituted amino; R₄ is hydrogen; and R₅ is phenyl or substituted phenyl.
10. (Previously Presented) The compound of claim 9, or a pharmaceutically acceptable salt or solvate thereof, wherein the substituent on the phenyl in R₂ is one or more selected from the group consisting of heterocyclic group, substituted heterocyclic group, lower alkyl carbonyl, cycloalkyl, lower alkyl, amino, substituted amino, halogen, halogenated lower alkyl, lower alkoxy, carboxy lower alkyloxy, heterocyclic group lower alkyloxy, amino lower alkyl, hydroxy, cyano, carbamoyl-heterocyclic group-oxy, cyano lower alkyl, and phenyl.
11. (Previously Presented) The compound of claim 10, or a pharmaceutically acceptable salt or solvate thereof, wherein R₂ is heterocyclic group or substituted heterocyclic group phenyl.

12. (Previously Presented) The compound of claim 10, or a pharmaceutically acceptable salt or solvate thereof, wherein R_2 is piperazino phenyl, substituted piperazino phenyl, piperizino phenyl, substituted piperizino phenyl, pyrrolidino phenyl, or substituted pyrrolidino phenyl.
13. (Previously Presented) The compound of claim 9, or a pharmaceutically acceptable salt or solvate thereof, wherein the substituent on the phenyl in R_5 is one or more selected from the group consisting of halogen, halogenated lower alkyl, aryl lower alkyloxy, lower alkyl, lower alkoxy, hydroxy, lower alkylthio, phenyl, phenyloxy, phenyl lower alkyl, phenyl lower alkylamino, phenyl lower alkylthio, phenyl lower alkenyl, phenyl carbamoyl, amino, and cycloalkyl lower alkyloxy.
14. (Previously Presented) A pharmaceutical composition, comprising the compound of any one of claims 3-13 and a physiologically acceptable carrier.
- 15-30. (Canceled).